



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------------|------------------|
| 10/830,213 | 04/21/2004 | Katsuyuki Kawamura | 247322002200 | 9355 |
| 25226 7590 01/10/2007 MORRISON & FOERSTER LLP 755 PAGE MILL RD PALO ALTO, CA 94304-1018 | | | EXAMINER GUPTA, PARUL H | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2627 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 01/10/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/830,213

Applicant(s)

KAWAMURA ET AL.

Examiner

Parul Gupta

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4 and 5 is/are rejected.
- 7) ☒ Claim(s) 2 and 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-5 are pending for examination as interpreted by the examiner. The IDS filed on 4/21/04 was considered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Suzu, US Patent 5,854,772.

Regarding claim 1, Suzu discloses as conventional in figure 1 a decoder circuit (column 3, line 12), which is mounted on an integrated circuit ("semiconductor memory device" of column 3, lines 9), decoding an input voltage supplied to a single external input terminal into three or more control outputs (OUT A0-OUTA7), the decoder circuit comprising: a P-type transistor in which an emitter (source) is connected to a power source line of high level (column 1, lines 29-31), a base (gate) is connected to the external input terminal (column 1, lines 46-49), and a collector (drain) is an output terminal of a first control output (column 1, lines 31-33); and an N-type transistor in which an emitter (source) is connected to a power source line of low level (ground as given in column 1, lines 44-45 is a power source of low level), a base (gate) is connected to the external input terminal (column 1, lines 46-49), and a collector (drain) is an output terminal of a second control output (column 1, lines 36-39).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4 and 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Suzu in view of Kitayama, US Patent 5,418,762.

Regarding claims 4 and 5, Suzu teaches an apparatus being capable of switch function by means of a decoder circuit (column 8, lines 47-54), the decoder circuit (column 3, line 12), which is mounted on an integrated circuit ("semiconductor memory device" of column 3, lines 9), decoding an input voltage supplied to a single external input terminal into three or more control outputs (OUT A0-OUTA7), the decoder circuit comprising: a P-type transistor in which an emitter (source) is connected to a power source line of high level (column 1, lines 29-31), a base (gate) is connected to the external input terminal (column 1, lines 46-49), and a collector (drain) is an output terminal of a first control output (column 1, lines 31-33); and an N-type transistor in which an emitter (source) is connected to a power source line of low level (ground as given in column 1, lines 44-45 is a power source of low level), a base (gate) is connected to the external input terminal (column 1, lines 46-49), and a collector (drain) is an output terminal of a second control output (column 1, lines 36-39). Suzu does not but Kitayama teaches in column 8, lines 12-47 an optical pickup including a photo-detecting amplifier circuit ("RF amplifier") for a disk recording/reproducing apparatus that uses a decoder circuit ("address decoder"). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of expanding the use of the

decoder circuit to match an optical pickup as taught by Kitayama into the system of Suzu. The motivation would be to increase the possibility of use for the decoder circuit.

Allowable Subject Matter

4. Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art is listed below, although the combinations would alter the functioning of the circuits.

Regarding claim 2, Suzu teaches the decoder circuit according to claim 1. Suzu does not but Arakawa teaches in figure 12 (explained further in column 16, lines 40-60) a circuit further comprising: one or more voltage decreasing means (Qg and Qh) of which one end (base) is connected to the external input terminal; and one or more first additional transistor in which a base (gate) is connected to the other end of the voltage decreasing means or to one of contacts of the voltage decreasing means, and an emitter (source) is connected to the power source line of high level or low level (Vpp/Vcc), and a collector (drain) is an output terminal of a control output (VI).

Regarding claim 3, Suzu teaches the decoder circuit according to claim 1. Suzu does not but O'Shaughnessy teaches in figure 7B a circuit further comprising: a first voltage-dividing circuit (1041), standing between the external input terminal and the base (gate) of the P-type transistor (1044), in which four or more voltage-dividing resistors (only 3 shown, but number of resistors depends on resistance of each) are connected in series between the power source lines (VDD and VSS), the external input terminal is connected to a first contact of the voltage-dividing resistors (immediately after 1043), the base (gate) of the P-type transistor is connected via a bias resistor (inherent resistance in base of transistor) to a

Art Unit: 2627

second contact of the voltage-dividing resistors (1043), and the base (gate) of the N-type transistor (1045) is connected via a bias resistor (inherent resistance in base of transistor) to a third contact of the voltage-dividing resistors (1042), the second contact having a voltage level higher than that of the first contact, the third contact having a voltage level (V_h) lower than the first contact (V_{SS}) (voltages and relationships between contacts depend on the resistors and can be controlled to yield this result); one or more first additional transistor (1050 and 1051) in which a base (gate) is connected via a bias resistor (inherent resistance in base of transistor) to a contact having a voltage level lower than the first contact (Although R_{EX} is given to be equivalent to V_{DS} , the voltages of 1041 are controlled depending on the values of the resistors. Thus, the values of the resistors may be altered to yield this result.); a second voltage-dividing circuit (1042 to V_{DD}) to which current taken in the P-type transistor (i_{Vh}) is supplied; and one or more second additional transistor (1046-1049) in which a base (gate) is connected via a bias resistor (inherent resistance in base of transistor) to a contact of voltage-dividing resistors of the second voltage-dividing circuit.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 4,424,732 uses two separate voltage-dividing circuits with the transistors. US Patent 5,999,464 uses a similar configuration of transistors.

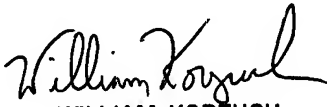
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parul Gupta whose telephone number is 571-272-5260. The examiner can normally be reached on Monday through Thursday, from 9:30 AM to 7 PM.

Art Unit: 2627

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHG
1/5/07


WILLIAM KORZUCH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600